1-10-02

SCAG FY 02-03OVERALL WORK PLAN

Fiscal year 2002-2003
Potential projects

Modeling/GIS Section

1. Regional Transportation Modeling Support

TASK 1. Provide modeling services in support of implementing and refining the Regional Transportation Plan. Apply SCAG's Regional Transportation Model to test various alternative development, provide sensitivity analysis, and land use alternatives requested by other SCAG departments, and policy committees, and other government agencies .

PRODUCTS: Modeling results, reports, summary statistics.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 2. Develop Web-based GUI interface to provide improved access to model for outside agencies.

PRODUCTS: GUI interface to setup execute and analyze model runs. GUI interface to document and report model results.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 3. Apply SCAG's Regional Transportation Model to analyze the Federal and State Transportation Improvement Programs (FTIP and STIP) amendments.

PRODUCTS: Modeling results, reports, summary statistics.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 4. . Conduct Year 2000 model Validation to be used as the base year for the 2004 RTP.

PRODUCTS: Modeling results, reports, summary statistics.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 5. Conduct the emission analysis for air quality conformity for the Federal and State Transportation Improvement Programs. Use the Direct Travel Impact Model (DTIM) based on the most recently adopted socio-economic data, current travel statistics, and approved emissions factors. Also perform the necessary transportation modeling and air quality analysis for the development of the Air Quality Plan. Prepare a report documenting model assumptions, study methodology, and findings.

PRODUCTS: Modeling results, reports, summary statistics.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 6. Coordinate the efforts of the numerous agencies in the Region developing and using transportation models. Be an active participant in Federal, State, subregional, and local modeling programs. Continue to work with the Modeling Task Force to coordinate the Region's modeling activities, promote model consistency, review technical assumptions, and provide guidance to SCAG's Regional Modeling Program.

PRODUCTS: Conduct the Modeling Task Force as scheduled, shared modeling information with MTF members.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 7. Provide Unix system programming, and modeling software supports.

PRODUCTS: Received Unix system and modeling software supports.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

TASK 8. Upgrade the Unix machines to accommodate needs for additional disk space and processing speeds.

PRODUCTS: Unix machines upgraded.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

2. Regional Transportation Model Improvements

1. Consolidate both transit and highway network (continuous from previous fiscal year) The project will include two subtasks: Task 1 will convert Viper based highway network and Tranplan Based transit network into a consolidated GIS based network to improve the quality of the network and to cut the maintenance effort. Task 2 will streamline the model feedback process so highway congested travel time can be fed into the transit network automatically.

PRODUCT: Improved networks.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

2. Develop Capacity-Constrained transit assignment model. The existing transit assignment bases on all-or-nothing assignment and does not include the parking supply as a factor for calculating park-and-ride vehicle. The proposed project will improve the transit assignment model.

PRODUCT: Developed a capacity-constrained transit assignment model.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

3. Improve the Heavy Duty Truck Model based on the Heavy Duty Truck Counts Study and other available data. The project will evaluate the current PCEs used in the heavy duty truck model and use the result of the heavy duty truck counts study to improve the Heavy Duty Truck Model.

PRODUCT: The Heavy Duty Truck Model is improved.

POTENTIAL FUNDIING: CPG & (partially from MTA, Sanbag, RCTC, ARB, VCTC, and OCTA)

PROJECT DURATION: July 2002 to June 2003

4. Develop External and Through trip forecasting model. The project will tabulate, analyze the results of the Cordon Station Survey, and Heavy Duty Truck Counts Study to develop an External and Through trip forecasting model.

PRODUCT: Developed External and Through trip forecasting model.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

5. Conduct Arterial and Freeway Average Speed Study. There is no arterial speed available currently, and the freeway speed data is inadequate. The project will conduct arterial speed survey and collect data from existing source. The result will be used to validate the current regional travel demand model.

PRODUCT: Complete the arterial average speed survey and report.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

6. Incorporate the new Parking Cost model to SCAG's regional travel demand model. SCAG is contracting a firm to develop a Parking Cost model. SCAG plans to incorporate the Parking Cost model into current regional demand model.

PRODUCT: The Parking Cost model is integrated with the current regional travel demand model.

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

7. Implementation of model consistency among agencies in the SCAG region. The project will transfer SCAG's Heavy Duty Truck model to MTA and OCTA, Coordinate MTA and OCTA to use same inputs in order to achieve consistent modeling results among agencies.

PRODUCT: Model Transferred

POTENTIAL FUNDING: CPG

PROJECT DURATION: July 2002 to June 2003

8. Update Trip Generation Model. The project will use the results of census survey, Origin-Destination travel survey, and Census CTPP to calculate trip generation rates and develop next generation of the Trip Generation model.

PRODUCT: UpdateTrip Generation Model.

POTENTIAL FUNDING: CPG & (partially from MTA, Sanbag, RCTC, ARB, VCTC, and OCTA)

PROJECT DURATION: July 2002 to June 2003

9. Update Trip Distribution Model. The project will use the results of census survey, Origin-Destination travel survey, and Census CTPP to develop trip flows by county and by traffic flow and to develop next generation of the Trip Distribution model.

PRODUCT: Update Trip Distribution model.

POTENTIAL FUNDING: CPG & (partially from MTA, Sanbag, RCTC, ARB, VCTC, and OCTA)

PROJECT DURATION: July 2002 to June 2003

10. Update Model Choice Model. The project will use the results of census survey, Origin-Destination travel survey, and Census CTPP to calculate mode shares, and to develop next generation of the Mode Choice model.

PRODUCT: Update Model Choice model.

POTENTIAL FUNDING: CPG & (partially from MTA, Sanbag, RCTC, ARB, VCTC, and OCTA)
PROJECT DURATION: July 2002 to June 2004

11. Second year of the Airport Travel Demand Model Development which including passenger survey to update the Airport Travel Demand Model

PRODUCT: The Airport Travel Demand model is improved.

POTENTIAL FUNDING: CPG & (partially from FAA)

PROJECT DURATION: July 2002 to June 2003

3. Subregional Modeling Support

TASK 1. Subregional Modeling Support - Provide modeling services to subregions in support of their transportation planning programs.

PRODUCT: Subregional Modeling Support

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 2. Model Coordination - Coordinate subregional modeling programs with SCAG's Regional Modeling program. Promote region wide model consistency and provide technical assistance to Subregional Modeling agencies.

PRODUCT: Subregional Modeling Coordination

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 3 – Subregional Model Methodology – Develop and refine methodologies and procedures to apply SCAG's Regional Model methodologies at the sub-regional level.

PRODUCT: Sub-regional Modeling Methodology

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 4 – Subregional Model Application – Assist subregions to integrate SCAG's Subregional modeling methodology into their subregional models. Task include updating subregional model's Transportation Analysis Zones (TAZ), socio-econonomic data, transportation networks, mode choice methodology, speed assumptions, capacities, and implementing a truck forecasting component.

PRODUCT: Improved Sub-regional Modeling Capability

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

DEPARTMENT(S): Information Services

TASK 5 – Subregional Network Development – – Develop new methodologies and procedures to develop subregional transportation networks from SCAG's Regional transportation network master database. Also, update the master database using refinements and corrections from the subregional model networks.

PRODUCT: Subregional Model Networks

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 6 – Continuation of subregional model update from the previous year.

PRODUCT: Model updated and is consistent with SCAG's regional model

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

4. GIS Technical Support

TASK 1 - Mapping and Spatial Analysis Support -- Provide staff , subregions, cities and other government agencies with mapping and spatial analysis support Continue to improve procedures for display of map graphics on various media. Improve techniques of spatial analysis to more efficiently respond to requests and supply more thorough analysis.

PRODUCT: Maps, tables, data sets.

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 2 -- On-line mapping applications – Currently SCAG has a web applications developed that use interactive mapping capabilities. These applications should be enhanced and maintained to the standards of the industry. Additional applications that continue to reflect SCAG role as a regional data provider should also be developed. Maintain and enhance SCAG's on-line mapping capabilities to improve outreach and information dissemination.

PRODUCT: Web sites and pages

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 3 -- Regional travel demand model network –Travel demand networks consistent with a street centerline file were in development in the past fiscal year. This effort will continue into this fiscal year with improvements in the process, testing, and enhancement of these networks. Continue development and maintenance of a regional travel demand model networks consistent with Thomas Brothers street centerline file.

PRODUCT: Data sets

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 4 -- Data Cataloging – To further information dissemination and outreach it is necessary to stay current with on-line methods of distribution. Improve Web Accessible Geodata Search (WAGS) and provide application services.

PRODUCT: Web site, programs, application services

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 5 -- Project Cataloging – Retrieving previously developed products is a continuing source of inefficiency. Develop mechanism to catalog and store projects for future retrieval.

PRODUCT: Programs and procedures

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 6 -- General Plan Maintenance – General plans are a cornerstone to forecasting and are a dynamic data base. Continue to maintain and improve General Plan database

PRODUCT: Data sets

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 7-- Transit itinery data base integration – The transit itinery data base has a vast volume of data on transit links in the SCAG region that will greatly enhance the transit capabilities of the travel demand models. Continue efforts to transfer data from transit itinery database to regional travel demand models.

PRODUCT: Macros, programs, and procedures

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 8-- Linear Referencing System – The linear reference system has become the principal mechanism for database development and maintenance. Continue improvements and maintenance of linear reference system.

PRODUCT: Linear reference system on Thomas Brothers street center line files.

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

TASK 9—Coordinate GIS activity, develop guidelines for defining acceptable GIS database and practice in the SCAG's region.

PRODUCT: Improved GIS database

SCHEDULE: Start Date: July 1, 2002 End Date: June 30, 2003

5. GIS Technical Improvements

TASK 1 – Implement GIS procedures to spatially analyze model inputs. The spatial pattern of model inputs is the most critical factor to understanding model dynamics. The spatial distribution of population and employment is a primary influence on the patterns of mobility. Spatial analysis techniques are available to assist in analysis of these patterns and increase understanding of the dynamics of the distribution. This task will investigate and implement mechanisms and procedures to spatially analyze model inputs.

PRODUCT: Maps, data sets, programs , and procedures

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2001 End Date: June 30, 2003

TASK 2 -- Implement GIS procedures to spatially analyze and display model results – Model outputs are becoming more integrated with GIS street center line files. This integration has multiple benefits. Two benefits are more accurate placement of mobility coefficients and the other is vertical integration of linear feature attributes. Both provide a wealth of opportunities to more effectively analyze the output. This task will investigate mechanisms and procedures to spatially analyze model outputs to more efficiently analyze results.

PRODUCT: Maps, tables,data sets, and macros

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2001 End Date: June 30, 2003

TASK 3 – Update GIS City boundaries – City boundaries are dynamic. When individuals familiar with annexations see out of date boundaries they question the accuracy and validity of other data presented. This task will investigate and execute mechanisms and procedures to input changes in city boundaries into GIS database.

PRODUCT: Data sets

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2001 End Date: June 30, 2003

TASK 4 – Integrate TIP data – The TIP is developing better and more accurate data sets. Accurate location of TIP projects is critical to travel demand determination. This task will develop mechanisms and procedures to integrate TIP data into the GIS database.

PRODUCT: Data sets, programs and procedures

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2001 End Date: June 30, 2003

TASK 5 – Integrate IGR data – The IGR program is developing better and more accurate data sets. Accurate location of these projects is critical to travel demand determination. This task will develop mechanisms and procedures to integrate IGR data into the GIS database.

PRODUCT: Data sets, programs and procedures

POTENTIAL FUNDING: CPG

SCHEDULE: Start Date: July 1, 2001 End Date: June 30, 2003